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OUR INDUSTRIAL JUGGERNAUT.

BY DR. JOSIAH STRONG, PRESIDENT OF THE AMERICAN INSTITUTE
OF SOCIAL SERVICE.

A DISTINGUISHED statesman, with whom the writer was not long since discussing the subject of industrial accidents, remarked, "This is a matter of which I have been profoundly ignorant." The remark is eminently applicable to the general public in the United States.

There is every summer more or less newspaper thunder created by the annual report of the Interstate Commerce Commission touching railway accidents, and railway officials attract the lightning of public indignation; but the public is not aware that railway accidents are only a small proportion of the casualties which take place in the industrial world.

Accidents in the manufacturing and building industries are much more numerous than railway casualties, but they appeal to the public much less, partly because we have no exact information concerning them, and partly because only one class of people is exposed to a given class of industrial accidents. The general public is not in the slightest danger of falling from the steel frame of a sky-scraper, nor of being ripped up by a buzz-saw, nor of being mangled by a mine explosion. All such accidents seem far removed and only half real to those who are quite safe from them. But every one travels more or less, so that accident by rail is a possibility that concerns all.

It is important to gain some idea of the great numbers who are annually sacrificed by accidents in our American industries. As compared with European Governments, our State Legislatures have generally been strangely indifferent to the whole subject. The laws of only eleven of our States require the reporting of accidents in factories; and a careful examination reveals but a

single State whose laws require the reporting of accidents in all industries. There exist, however, some data from which rough estimates may be made.

There were in France, during the year 1904, no less than 212,755 industrial accidents, not including those in mines and on railways. When we consider that we are much more careless of life and limb than the French, and that our population is more than twice as large as that of France, there can be little doubt that in a single year we have at least 425,000 industrial accidents, not including railway and mining casualties. Fortunately, concerning these two industries we have some definite information; and, adding to the above figures our railway accidents in 1904, *viz.*, 94,201, together with 5,100 casualties in our coal-mines (not including other mines), we get a total of some 525,000 industrial accidents in the United States in a single year as the probable minimum number.

Entirely different data give much the same results. The records of one of the great casualty companies of this country show that, under policies issued on a wage expenditure of \$1,905,515,398 as a basis, there were reported 185,088 accidents. This insurance was placed on workmen engaged in what the census designates as "manufacturing and mechanical pursuits." Assuming \$500 to be the average annual earnings of such workmen, many of whom are highly skilled, the above-mentioned wage expenditure represents the employment of 3,811,030 persons for one year, which indicates that in such industries one person in 20.59 is injured annually, or 48.56 out of every thousand. At this rate, the 7,085,992 persons engaged in these industries in 1900 suffered 344,096 accidents. There were that year about 22,000,000 persons in the United States who were engaged in gainful occupations other than manufacturing and mechanical. We do not know how many accidents occur in these industries, except railroading; but, assuming that on the average they are only one-fifth as dangerous as the manufacturing and mechanical pursuits, they furnished in 1900, 220,000 casualties, which would make a total of 564,000 industrial accidents that census year.

Again, take still other data. A Wisconsin law, enacted in 1905, requires physicians to report every accident which incapacitates its victim for a period of at least two weeks. The first year under the new law has not yet expired, but the writer

is informed that the returns up to date indicate that the twelve months' record will show from 15,000 to 20,000 accidents.

Wisconsin, with its diversified industries of farming, manufacturing, mining, lumbering and building, may be considered fairly representative of the whole country. If, then, there are 15,000 accidents in that State in a single year, at the same rate there would be in the United States no less than 542,000.

It seems, therefore, reasonable to conclude that the minimum number of industrial accidents in this country, in a year, must be considerably above 500,000.

When in all history have two great armies been able to inflict on each other a total of half a million casualties in a single year? This is fifty per cent. more than all the killed and wounded in the late war between Japan and Russia.

There are more casualties on our railways in a single year than there were on both sides of the Boer war in three years.

Last year, on our railways, we killed as many every thirty-seven days and wounded as many every twelve days as all our killed and wounded in the 2,561 engagements of the Philippine war. Or, in other words, there were twenty-four times as many casualties on our railways in one year as our army suffered in the Philippine war in three years and three months. At that rate, we might have continued the war for seventy-eight years before equalling the record of our railways in a twelvemonth. And we must not forget that less than one-fifth of the losses of our industrial army are suffered on our railways. That is to say, we might carry on a half-dozen Philippine wars for three-quarters of a century with no larger number of total casualties than take place yearly in our peaceful industries.

Taking the lowest of our three estimates of industrial accidents, the total number of casualties suffered by our industrial army in one year is equal to the average annual casualties of our Civil War, plus those of the Philippine war, plus those of the Russian and Japanese war.

*Think of our carrying on three such wars, at the same time, world without end!**

* It will be observed that our comparisons are between the *total number* of casualties in our industries and in various wars, without reference to the proportion of fatal and non-fatal casualties. The pro-

We are waging a perpetual war on humanity, and one which is apparently growing bloodier from year to year.

With the establishment of the Hague Tribunal and the negotiation of treaties of arbitration we may confidently hope that the frequency of wars will diminish; but with the increasing use of machinery industrial accidents will naturally multiply unless vigorous preventive measures are adopted.

In the absence of any exact knowledge of other departments of industry, let us turn again to the railways. Of course passenger traffic increases with the growth of population and of business; and it is not strange that an increase of accidents should accompany the increase of travel and the extension of our railway system. But the danger of travelling by rail is increasing more rapidly than passenger traffic. The following tables were prepared from the recently issued report of the Interstate Commerce Commission for 1905:

	<i>Number of passengers carried for one killed</i>	<i>Number of passengers carried for one injured</i>
1905.....	1,375,856	70,655
1904.....	1,622,267	78,523
1895.....	2,984,832	213,651

These figures show that for a given number of passengers carried there were twice as many killed and three times as many injured in 1905 as there were ten years before. But the more accurate comparison is between the number of passenger-miles travelled in different years; for, other things being equal, a journey of a thousand miles involves ten times as much risk as a journey of only one hundred miles. In the following table, the peril of railway travel in different years is seen to vary inversely as the number of passenger-miles accomplished for one passenger killed or injured.

portion of killed to wounded in our industrial accidents is unknown, but, judging from railway statistics, there is reason to believe that it is considerably smaller than in the casualties of war. If, however, we include the fatalities which befall the general public and which are not classified as industrial, the total number of violent deaths in the United States in one year is undoubtedly in excess of the total number killed in a single average year of the three wars referred to above.

Of course the losses of war include many deaths from sickness. These are not considered, because we have no means of estimating the number of corresponding deaths in our industrial army caused by disease-producing occupations.

	<i>Passenger-miles accom- plished for one pas- senger killed</i>	<i>Passenger-miles accom- plished for one pas- senger injured</i>
1905.....	44,320,576	2,276,002
1904.....	49,712,502	2,406,236
1895.....	71,693,743	5,131,977
	<i>Percentage of increased peril to passenger's life</i>	<i>Percentage of increased peril to passenger's limb</i>
In one year.....	12.16	5.72
In ten years.....	61.76	125.52

The above tables show that the chances of fatal accident to the traveller increased about sixty-one per cent. in ten years, and that the chances of non-fatal accident considerably more than doubled during the same period.

Our pioneer forefathers faced the perils of savage beasts and savage men, and gradually overcame them; but modern civilization is beset with multiplying perils of our own making. We are demanding ever-increasing speed of travel; we are inventing more powerful explosives; we are making new applications of electricity; we are building high and higher structures; we are supplanting the simple hand-tools of other generations by swift and powerful machinery; and the proportion of those engaged in mechanical industries is increasing, and must necessarily continue to increase.

Surely, our modern, industrial civilization resembles a Frankenstein. And unless something is done to check the monster it is creating, he will grow ever more murderous.

Europe is far in advance of America in protecting workmen from needless accidents both by legislation and by safety appliances. The Association of French Industrialists for the Prevention of Accidents, by reason of its varied and beneficent activities, was declared to be of "public utility" as long ago as 1887. There was a General Exposition of Accident Prevention in Germany in 1889. Immediately after its close, there was organized in Vienna a Museum of Security and of Industrial Hygiene. There are now half a dozen such museums in Europe, one having been organized in Paris last December, and formally opened by the President of the Republic. Even backward Russia shames us by her Museum of Security at Moscow. Austria has had a score of expositions of safety appliances for the education of the people. Governments and public-spirited citizens have

vied with each other in providing funds for such institutions. Here the greatest of all industrial peoples has attempted little by legislation and nothing by organized effort.

In view of these facts, it is not strange that in the same industries (railroading and mining), of a given number of men employed we kill and injure from two to nine times as many as they do in Europe.

Nor are we to suppose that they have reduced accidents to a minimum. An investigation of 15,970 accidents in Germany showed that fifty-three per cent. of them were avoidable.

If, among a given number of employees, we have more than twice as many accidents as Germany, and if more than half of Germany's accidents are avoidable, it would seem probable that more than three-quarters of ours are avoidable.

If only two-thirds of our industrial accidents are unnecessary, then our industrial army suffers every year as many *needless* casualties as the total number inflicted on each other by the Russian and Japanese armies in the late war.

The whole world was interested in stopping that bloodshed; and we were proud of the part our President played as international peacemaker. But the public is apathetic touching this perpetual war on humanity, although this blood-letting is on our own soil instead of Asia's.

Soldiers suffer because they are professional destroyers; but the members of this great industrial army who are struck down every year in this country suffer because they are *producers*. This is the price they pay for serving the public and promoting civilization.

Japan does not begrudge the cost of the late war. The sacrifices of our civil conflict were not wasted. There was a revelation of heroic daring that forced brave men on both sides to respect each other. The curse of slavery was forever removed, and the perfect union of North and South was made possible. The price was great, but not too great for the purchase of a free and united country; and that price was paid once for all.

But what outcome of good has industrial slaughter? It adds no names to the roll of heroes. It bequeaths to future generations no traditions which quicken the blood and kindle patriotic zeal. It is not a sacrifice for country which ennobles those who make it, and transforms death into a ministry to larger life.

This industrial slaughter is utter, utter waste—wasted resources, wasted anguish, wasted life. And although the greater part of this sacrifice is as needless as it is useless, it goes wearily on year after year. The price of our selfish indifference is never paid.

How shall we account for this stolid indifference? This destruction of life and limb does not take place in a corner. Doubtless many accidents occur which are never reported, but every day the papers repeat the sickening story; and this, perhaps, is the very reason why the facts fail to impress us. We become hardened by the endless repetition. If by some miracle of prudence or of Providence all accidents of every sort could be prevented for a year, and if, then, a half-million should occur in a single day, the shock would arouse the nation and something would be done. But the dead are quite as dead, the bereaved are quite as desolate and the maimed are quite as mutilated and helpless when these casualties are distributed through every day of the year as if, like the losses of a great battle, they had been crowded into a single day.

It is well to end the barbarities of war. Is it not time to place some limit to the barbarities of peace?

To this end the American Institute of Social Service is to hold an exposition of Safety Devices at the American Museum of Natural History, in New York, January 28th to February 9th, 1907. The Hon. Grover Cleveland has accepted the First Vice-Presidency. The active cooperation of European Museums of Security has been secured; and the interest manifested by American manufacturers is a pledge of its success.

JOSIAH STRONG.